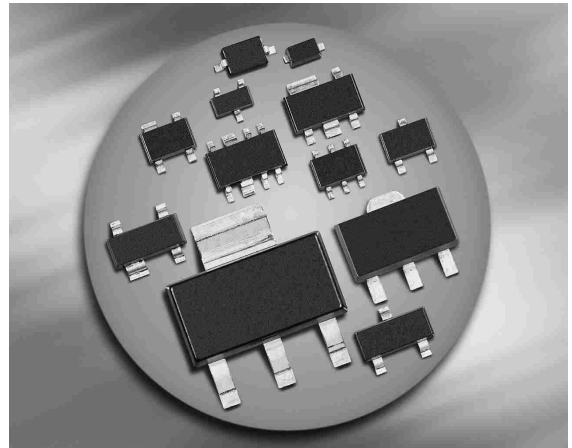
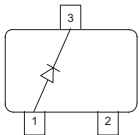


Silicon Schottky Diodes

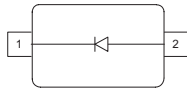
- For low-loss, fast-recovery, meter protection, bias isolation and clamping application
- Integrated diffused guard ring
- Low forward voltage



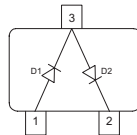
BAT64



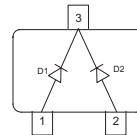
BAT64-02V BAT64-02W



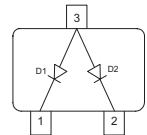
BAT64-04 BAT64-04W



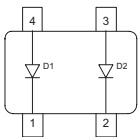
BAT64-05 BAT64-05W



BAT64-06 BAT64-06W



BAT64-07



ESD: Electrostatic discharge sensitive device, observe handling precaution!

| Type | Package | Configuration | L_S (nH) | Marking |
|------------|---------|----------------|------------|---------|
| BAT64 | SOT23 | single | 1.8 | 63s |
| BAT64-02V* | SC79 | single | 0.6 | t |
| BAT64-02W | SCD80 | single | 0.6 | 64 |
| BAT64-04 | SOT 23 | series | 1.8 | 64s |
| BAT64-04W | SOT323 | series | 1.4 | 64s |
| BAT64-05 | SOT23 | common cathode | 1.8 | 65s |
| BAT64-05W | SOT323 | common cathode | 1.4 | 65s |
| BAT64-06 | SOT23 | common anode | 1.8 | 66s |
| BAT64-06W | SOT323 | common anode | 1.4 | 66s |
| BAT64-07 | SOT143 | parallel pair | 2 | 67s |

* Preliminary data

Maximum Ratings at $T_A = 25^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Value | Unit |
|---|-----------|-------------|------------------|
| Diode reverse voltage | V_R | 40 | V |
| Forward current | I_F | 250 | mA |
| Non-repetitive peak surge forward current ($t \leq 10\text{ms}$) | I_{FSM} | 800 | |
| Average forward current (50/60Hz, sinus) | I_{FAV} | 120 | |
| Total power dissipation | P_{tot} | | mW |
| BAT64, $T_S \leq 86^\circ\text{C}$ | | 250 | |
| BAT64-02V, BAT64-02W, $T_S \leq 121^\circ\text{C}$ | | 250 | |
| BAT64-04, BAT64-06, BAT64-07, $T_S \leq 61^\circ\text{C}$ | | 250 | |
| BAT64-04W, BAT64-06W, $T_S \leq 111^\circ\text{C}$ | | 250 | |
| BAT64-05, $T_S \leq 36^\circ\text{C}$ | | 250 | |
| BAT64-05W, $T_S \leq 104^\circ\text{C}$ | | 250 | |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 ... 150 | |

Thermal Resistance

| Parameter | Symbol | Value | Unit |
|--|------------|------------|------|
| Junction - soldering point ¹⁾ | R_{thJS} | | K/W |
| BAT64 | | ≤ 255 | |
| BAT64-02V, BAT64-02W | | ≤ 115 | |
| BAT64-04, BAT64-06, BAT64-07 | | ≤ 355 | |
| BAT64-04W, BAT64-06W | | ≤ 155 | |
| BAT64-05 | | ≤ 455 | |
| BAT64-05W | | ≤ 185 | |

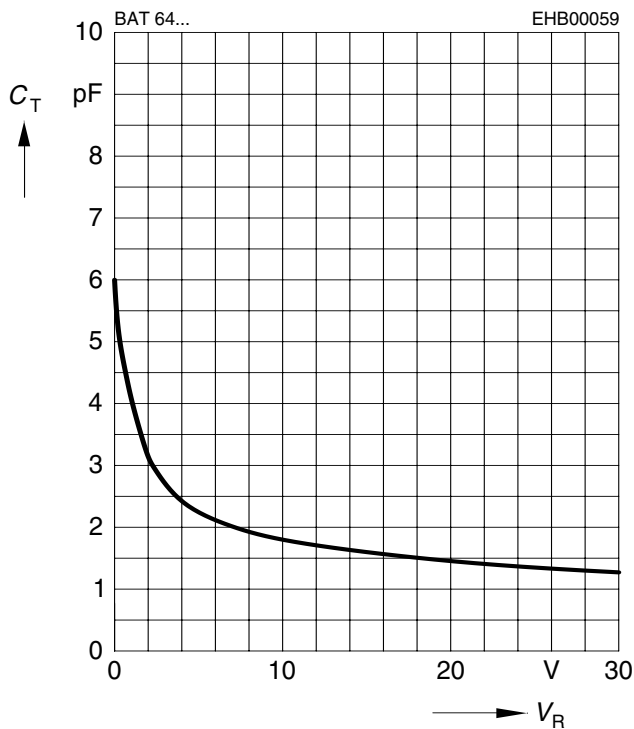
¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Values | | | Unit |
|--|------------|--------------------------|--------------------------|--------------------------|---------------|
| | | min. | typ. | max. | |
| DC Characteristics | | | | | |
| Breakdown voltage $I_{(BR)} = 10\ \mu\text{A}$ | $V_{(BR)}$ | 40 | - | - | V |
| Reverse current $V_R = 30\ \text{V}$ $V_R = 30\ \text{V}, T_A = 85\ ^\circ\text{C}$ | I_R | - - | - - | 2 200 | μA |
| Forward voltage $I_F = 1\ \text{mA}$ $I_F = 10\ \text{mA}$ $I_F = 30\ \text{mA}$ $I_F = 100\ \text{mA}$ | V_F | 270 310 370 500 | 320 385 440 570 | 350 430 520 750 | mV |
| AC Characteristics | | | | | |
| Diode capacitance $V_R = 1\ \text{V}, f = 1\ \text{MHz}$ | C_T | - | 4 | 6 | pF |
| Reverse recovery time $I_F = 10\ \text{mA}, I_R = 10\ \text{mA}$, measured $I_R = 1\ \text{mA}$, $R_L = 100\ \Omega$ | t_{rr} | - | - | 5 | ns |

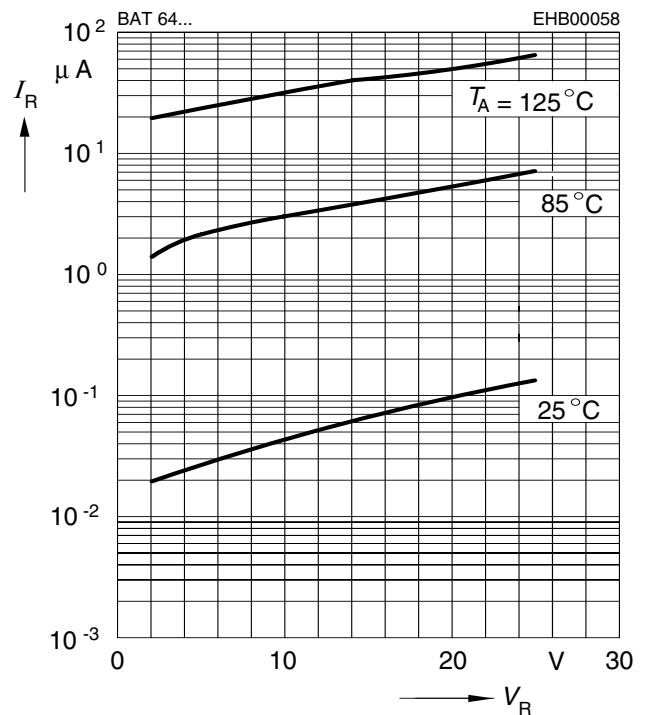
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



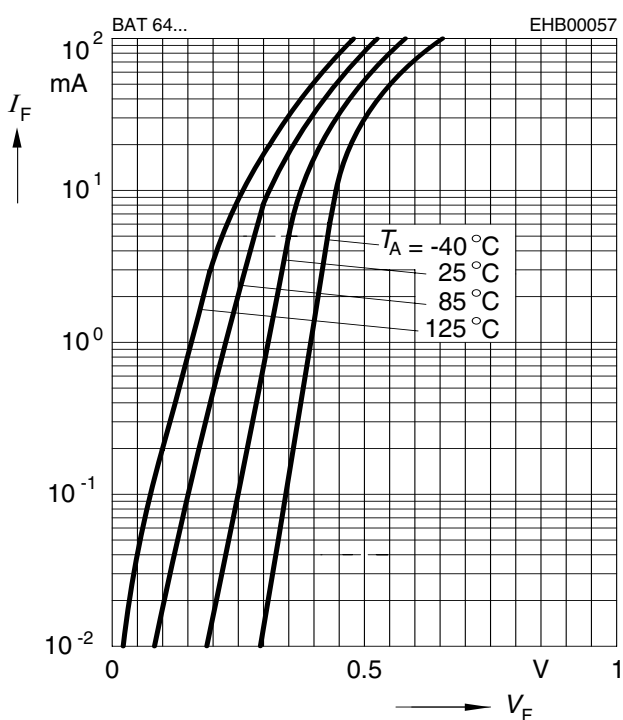
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



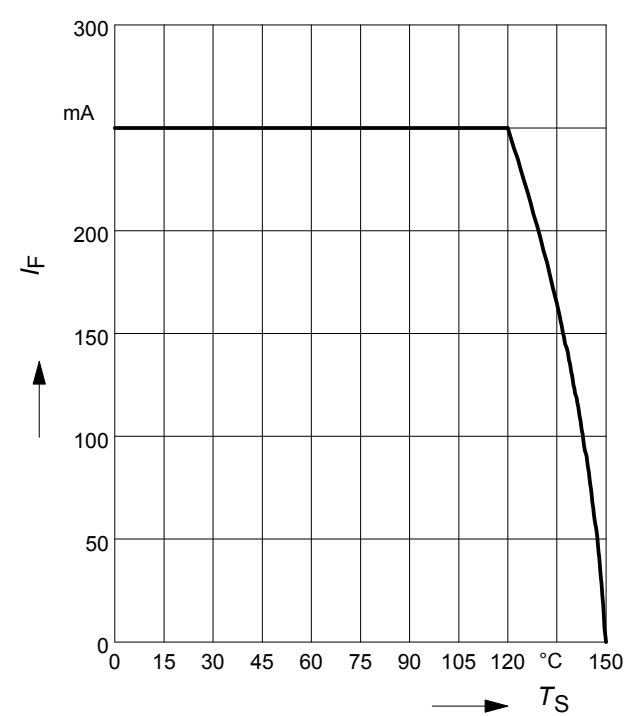
Forward current $I_F = f(V_F)$

$T_A = \text{Parameter}$



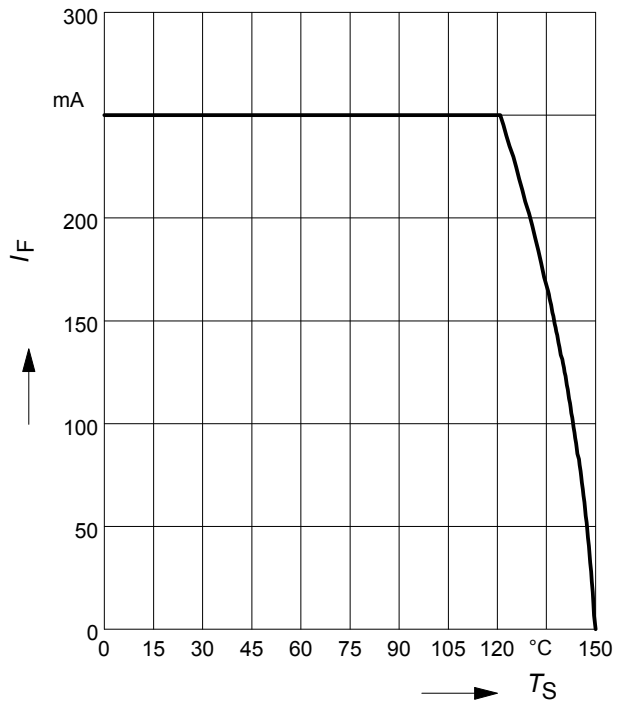
Forward current $I_F = f(T_S)$

BAT64W



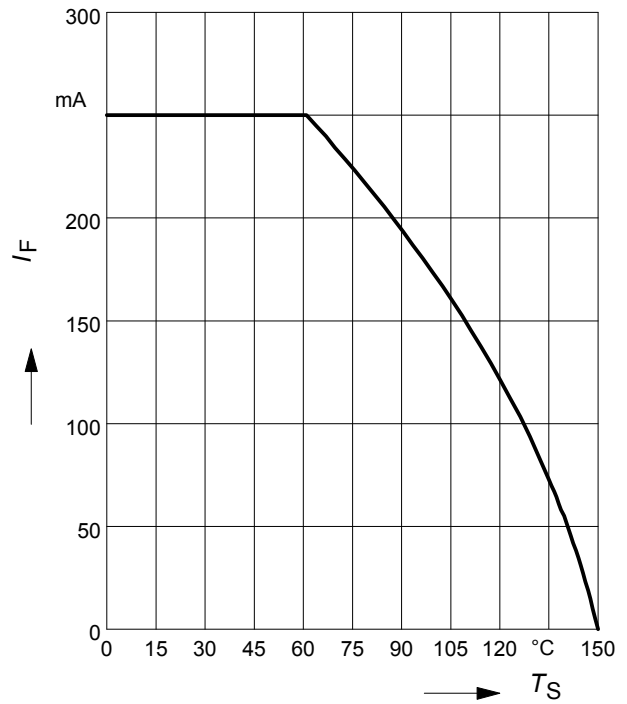
Forward current $I_F = f(T_S)$

BAT64-02V, BAT64-02W



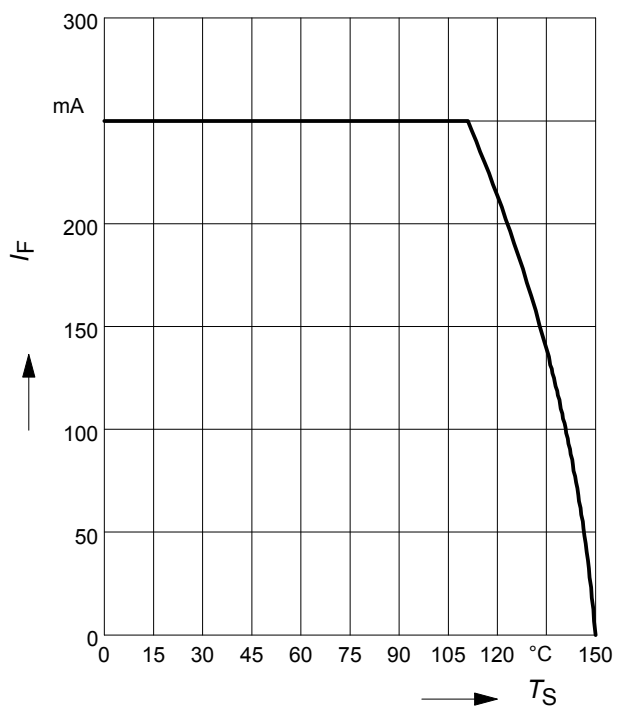
Forward current $I_F = f(T_S)$

BAT64-04, BAT64-06, BAT64-07



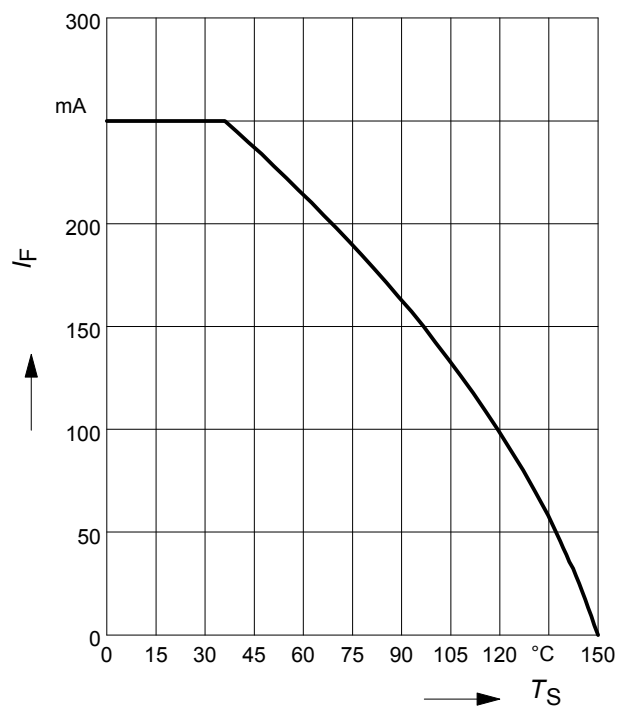
Forward current $I_F = f(T_S)$

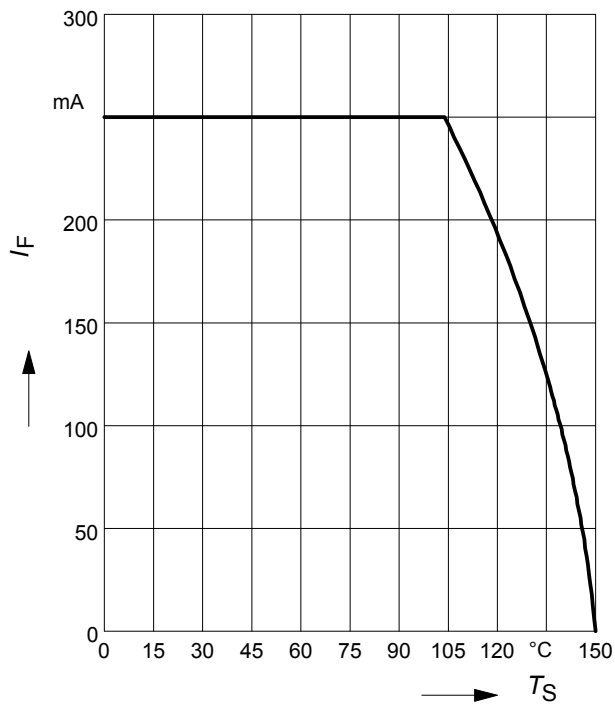
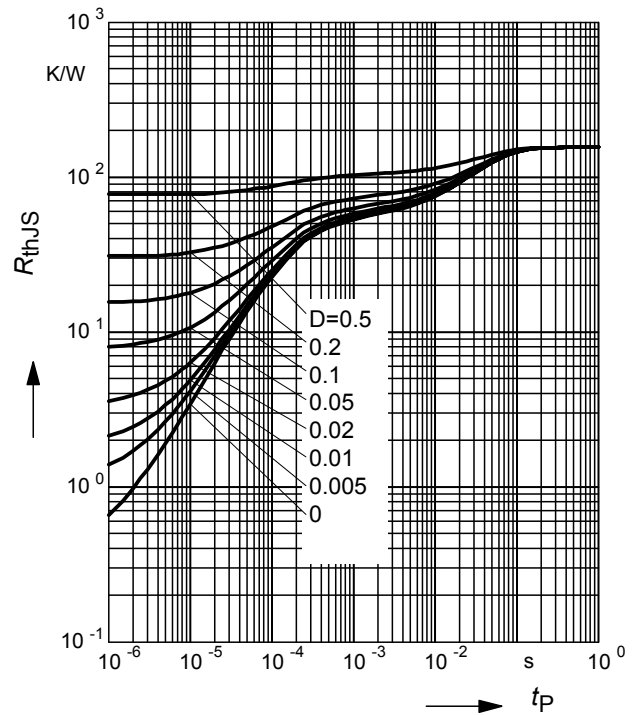
BAT64-04W, BAT64-06W



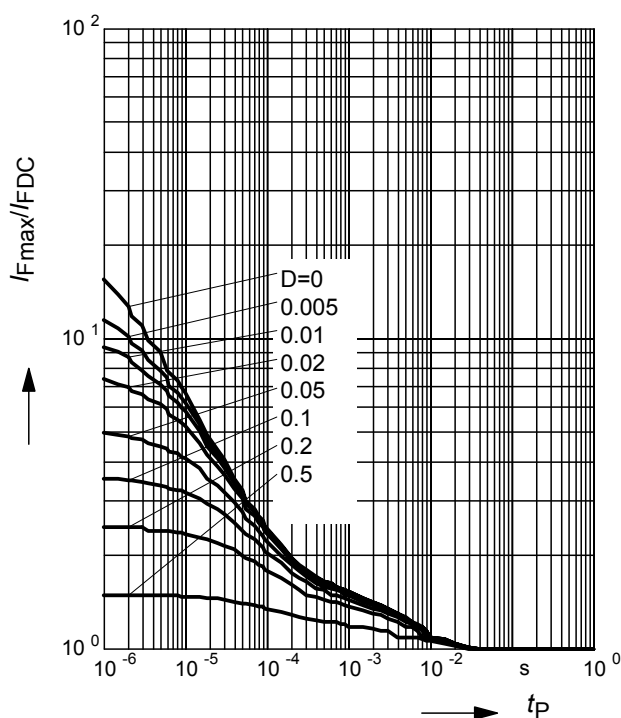
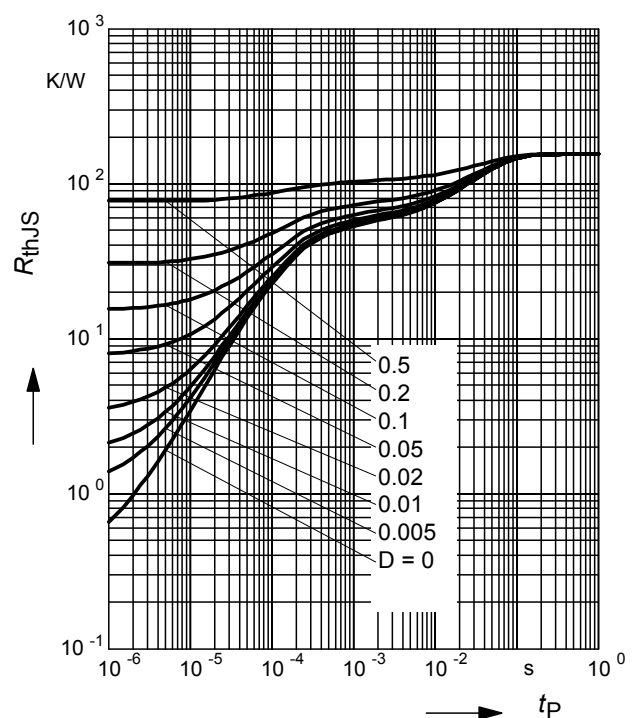
Forward current $I_F = f(T_S)$

BAT64-05



Forward current $I_F = f(T_S)$
BAT64-05W

Permissible Puls Load $R_{thJS} = f(t_p)$
BAT64-02V, BAT64-02W

Permissible Pulse Load

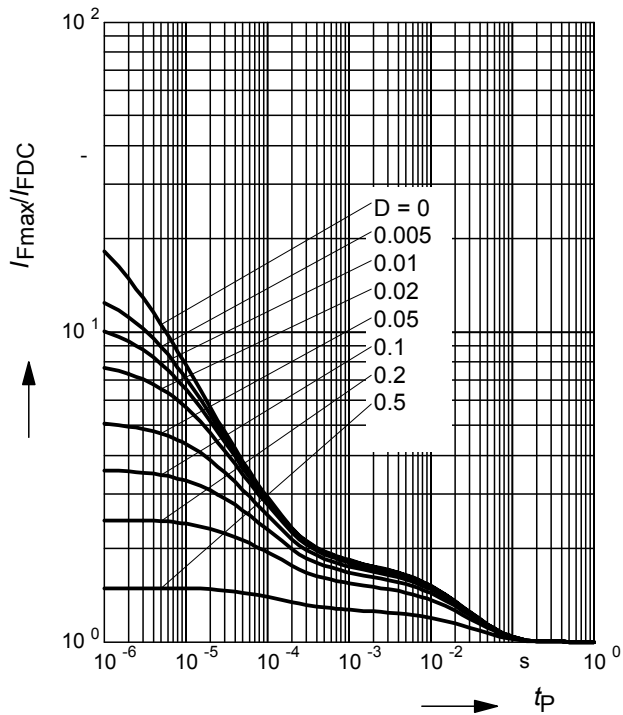
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAT64-02V, BAT64-02W

Permissible Puls Load $R_{thJS} = f(t_p)$
BAT64-04W, BAT64-06W


Permissible Pulse Load

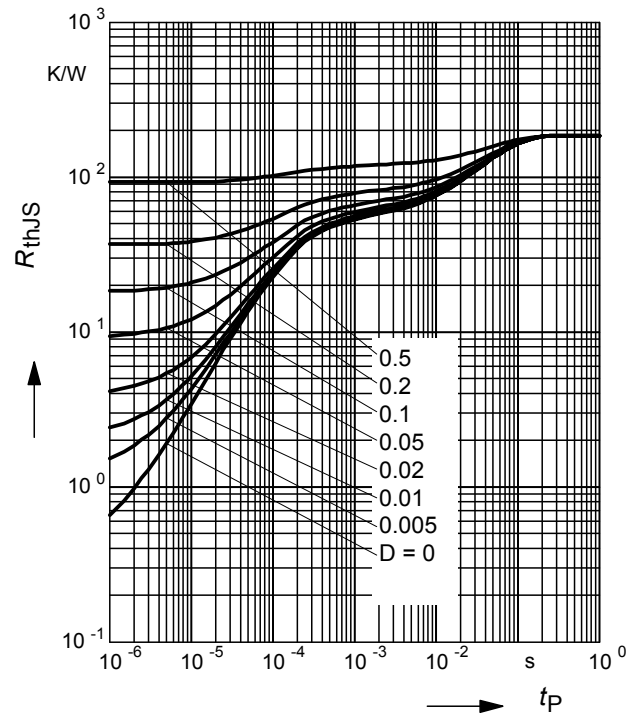
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAT64-04W, BAT64-06W



Permissible Puls Load $R_{thJS} = f(t_p)$

BAT64-05W



Permissible Pulse Load

$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAT64-05W

